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HOUSEKEEPERS' CHAT

Wednesday, April 29, 1936

(FOR BROADCAST USE ONLY)

Subject: "HOME CANNING METHODS." Information from the Bureau of Home Economics, United States Department of Agriculture.

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The reason that I am back so soon to the subject of home canning is a request from one of my listeners. After our last canning talk, this listener called me and said:

"Won't you please explain the various ways of canning and tell me which is which and when to use which?"

I hesitated for a minute over that rather complicated question, and she went on to say: "You see, I hear my neighbors comparing notes about 'oven canning' and 'pressure canning' and 'open-kettle canning' and dear knows what all until I am in a terrible state of confusion. I want to put up my food this summer by the best and safest method. But all these different canning methods with their fancy names are worse than a Chinese puzzle to me. Please set me straight."

That was the request, listeners, that brought me back to canning matters today. And in reply, I am going to report what the canning people at the Bureau of Home Economics say about the various canning methods as a result of their experience with them. (As you know, research in home canning goes on the year around at this Bureau of the Department of Agriculture.)

The canning methods on the approved list today are not very many and not very complicated. Even what my listener spoke of as "their fancy names" ought not to be confusing. They all go back to a few simple principles. For example, the principle of canning itself is simply sterilizing food by heat and then sealing it to keep out spoilage organisms. The scientists who have been working on canning have found out that different foods require different amounts of heat for sterilizing. They have found that acid foods need less heating than non-acid foods -- in other words, that you can can fruits and tomatoes safely by heating to boiling temperature but that meat and fish and most vegetables require heating much above the boiling point. As for fruit juice and tomato juice, these require the least heat of all; they will can safely at a temperature below boiling. The canning people have also found that the thinner a food is, the easier it is to can, because heat can penetrate it quickly. The more solid and thick a food is, the harder it is to sterilize it because heat penetrates it slowly.

These are the simple principles on which hang the 3 main methods that home canners are using today -- pressure canning; water-bath canning; and open-kettle canning. Each of these methods is just a different way of applying heat to food to sterilize and thus preserve it.



Let's mention pressure canning first. Every experienced home canner today knows the whys and wherefores of canning under pressure, knows that this is the one and only safe way to put up most vegetables and meats. Since nonacid foods need heat above the boiling point to make them safe, and since you can only get that high a temperature under pressure, you must have a steam pressure canner for the job. Into this canner go your glass jars or tin cans filled with vegetables or meat. The top of the canner clamps down and you process according to the time and pressure worked out by the canning investigators.

The other 2 methods of canning are for acid foods only. Whether you process in an open-kettle, or in a water-bath, you can bring the processing temperature <sup>only</sup> to the boiling point. So fruits and tomatoes are the only foods that you can safely can by either of these methods.

Let's talk about the water-bath method first, for, taking it all and all -- good results, safety, texture and flavor, this has proved the most satisfactory way to can fruits and tomatoes at home. Water-bath canning is simply putting your containers of food into water and boiling that water around the containers long enough for the heat to penetrate and kill the spoilage organisms in the food. You can use either glass or tin containers. And the containers and food get sterilized at the same time.

Two other less used methods of canning are "steamer canning" and "oven canning". These also are for acid foods only and not always satisfactory for them. In steamer canning, you put your jars, filled with fruit or tomatoes, into a steamer and let the circulating steam do the sterilizing. But steamer canning is not so certain as water-bath canning. Steam often does not circulate evenly around the jars, so you run the risk of not processing the food thoroughly.

As for "oven canning", that looked like a promising method when the modern range with its regulated oven appeared on the market. But it has proved to have many disadvantages. First, no matter how high the oven registers, the food inside the jars can not go above boiling. The steam simply escapes from the top of the jar and leaves the food inside at only boiling. So oven canning will never do for anything but acid foods, and it is not entirely satisfactory even for these. One trouble is <sup>that</sup> the juice always boils out leaving an empty space at the top of the jar. Then, fruits like peaches, pears and apricots often take on a brownish color when oven canned. Finally, oven canning is a longer method than water-bath canning because the air of the oven is not as good a conductor of heat as water. Oven canning, then, is satisfactory for only a few acid products and even with these, loss of juice from the top of the jar is inevitable, and the time required for canning is much longer.

The oldest canning method is the open-kettle method -- heating food in an open kettle and pouring the boiling food into sterilized jars and then sealing the jars. Heating food in a kettle this way is quicker and more even than heating food in a jar. But the disadvantages of open-kettle canning seem to outweigh the one advantage. The chief difficulty is that food can so easily be contaminated while pouring it into the jars or sealing them.

So, you see, listeners, you can take your choice of methods. But if you let the findings of the canning researchers be your guide, you will use pressure canning for all nonacid foods, and water-bath canning for your acid foods.

